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AFS 207,648

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Axel Weyer, et al.

SERIAL NO. Not yet known (PCT/EP2005/000256)

FILED: Currently

FOR: METHOD AND DEVICE FOR DETERMINING
THE POSITON OF THE SOLIDIFICATION
POINT...

EXAMINER: -- Group: --

Mail Stop: PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 CFR §§ 1.97 and 1.98, applicant respectfully requests that the documents listed on the attached form PTO-1449, be made of record and considered in connection with the examination of this application. Copies of the foreign patent documents and non-patent publications are enclosed. A translation of the foreign language document(s) is not readily available.

The documents submitted herewith were cited in a Search Report (copy enclosed) issued in an International application corresponding to the above-referenced application.

U.S. Patent No. 5,348,074 discloses a process and a device for continuous casting of slabs or ingots.

U.S. Patent No. 6,880,616 (corresponds to DE 199 31 331 cited in the Search Report) discloses a method and a device for making a metal strand.

European Publication EP 073 116 A1 discloses a vertical casting line for slabs.

European Publication EP 0 903 172 A1 discloses improvements in a method of casting strands.

Canadian Patent No. 2,495,042 (corresponds to German document DE 102 36 367 cited in the Search Report) discloses a method of and a device for dynamically positioning a cast strand from metal.

German Publication DE 100 45 250 discloses a method and a device for determining a position of an end solidification (12) in a cast strand wherein the cast strand is guided through support segments (3, 4), is cooled, and is drawn out (withdrawn) with guide roller pairs (5, 6). For determining the end solidification (12), at least in one of the support segments (3, 4), the strand pulling force (10) and/or holding force of the support segments (3, 4) is measured, with the region of the solidification point being determined based on the measured values.

U.S. Patent Publication US 2004/0026066 (correspond to WO 02/18077 and DE 100 42 079 cited in the Search Report) discloses a continuous casting installation with a soft reduction area.

U. S. Patent Publication US 2004/0129405 (corresponds to WO 02/090019 cited in the Search Report) discloses a method and a device for continuous casting of ingots, slabs and thin slabs.

U.S. Patent Publication US 2005/0095304 (corresponds to DE 102 04 064 A1 cited in the Search Report) discloses a feed opening adjustment for continuous casting systems.

Klaus Harste, et al., "Neubau Einer Verticalstranggissanlage...(Construction of a New Vertical Continuous Caster ...), Stahl und Eisen

(Steel and Iron), v. 117, No. 11, Nov. 10, 19997 disclose continuous casting with thickness reduction when the core is still liquid, in at least one reduction stand with a hydraulic positioning of segments (segment-gauge control), with measurement of force and path signals of the hydraulic cylinder and communicating them to a control and regulation system. A thermal tracking model for a dynamic soft reduction produces the position of the solidification point.

H.-P. Narzt, et al., "Productinnovationen und Qualitatverbesserungen beim Brammenstranggiessen" (Product Innovations and Quality Improvements in Continuous Casting of Slabs), Stahl und Eisen (Steel and Iron) v. 123, No. 5, May 16, 2003, pp. 77-82, disclose using a dynamic process model for calculating set points for individual support segments to provide for dynamic soft reduction.

H. Noedl, "Advanced Equipment for High-Performance Caster", MPT, No. 3, 2003, pp. 74-80, disclose dynamic soft reduction in bloom casters.

K. Noerwald, et al., "Roll Load Measurements on Thin Slab Caster...", Ironmaking and Steelmaking, v. 25, No. 2, 1998, pp. 159-162 discloses measurement of roll loads for liquid core detection.

Respectfully submitted,

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This correspondence is being deposited with the United States Postal Service on July 19, 2006 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number ER 059 675 864 US addressed to the Honorable Commissioner for Patents, Alexandria, VA 22313-1450.

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Form PTO-1449 (Rev. 7-80)		U.S. Department of Commerce Patent and Trademark Office		<div style="font-size: 1.2em; font-weight: bold;">10/586799</div> <div style="font-size: 0.8em;"> Rec'd PCT/PTO 19 JUL 2006 Atty. Docket Control No. AFS 207,648 </div>		Sheet 1 of 1 Serial No. Not yet known (PCT/EP2005/000256)							
LIST OF RELATED ART CITED BY APPLICANT (Use several sheets if necessary)				Applicants Axel Weyer, et al.									
				Filing Date Concurrently		Group --							
U.S. PATENT DOCUMENTS													
*Examiner Initial		Document Number							Date	Name	Class	Subclass	Filing Date If Appropriate
	AA	5	3	4	8	0	7	4	9/1994	Streubel			
	AB	6	8	8	0	6	1	6	4/2005	Kemna, et al.			
	AC												
FOREIGN PATENT DOCUMENTS													
		Document Number							Date	Country	Class	Subclass	Translation YES NO
	AD	0	7	4	3	1	1	6	11/1996	Europe			
	AE	0	9	0	3	1	9	2	3/1999	Europe			
	AF	2	4	9	5	0	4	2	2/2005	Canada			
	AG	0	0	4	5	2	5	0	3/2002	Germany			
	AH												
OTHER RELATED ART (Including Author, Title, Date, Pertinent Pages, Etc.)													
	AI	U.S. Patent. Publication US 2004/0026066, February 2004											
	AJ	U.S. Patent. Publication US 2004/0129405, July 2004											
	AK	U.S. Patent. Publication US 2005/0045304, March 3, 2005											
	AL	K. Harste, et al., Neubau einer Verticalstranggissanlage..., Stahl und Eisen, 117,											
		November 11, 1997, pp. 73-79											
	AM	H.-P. Narzt, et al., Productinnovationen und Qulitatverbesserung..., Stahl und Eisen, 123											
		Nov. 5, 2003, pp. 77-82											
	AN	H. Noedl, et al., Advanced Equipment for High-Performance Casters, MPT Int.,											
		Nov. 3, 2003, pp.74-80											
	AO	K. Noerwald, et al. "Roll Load Measurements..., Ironmaking and Steelmaking, v. 25,											
		Nov. 2, 1998, pp. 159-162											
Examiner								Date Considered					
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.													